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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,220	08/22/2006	Paul A. Stucky	60469-096 PUS1; 05222-US	1465

26096 7590 05/08/2009

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EXAMINER	
SUN, XIUQIN	

ART UNIT	PAPER NUMBER
2863	

MAIL DATE	DELIVERY MODE
05/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,220	STUCKY ET AL.	
	Examiner	Art Unit	
	XIUQUIN SUN	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9,11-13 and 16-19* is/are rejected.

7)☒ Claim(s) *2,10,14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-9, 11-13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robar et al. (U.S. Pat. No. 7123030) in view of Blum (U.S. Pat. No. 5570017) and Parrini et al. (U.S. Pat. No. 7182174).

Regarding claim 1, Robar et al. teach a support structure monitoring system for an elevator (Abstract), comprising: a characteristic sensor that obtains a measured electrical characteristic of at least one portion of the support structure (col. 7, lines 4-10); and a processor calculates a difference between the measured value and a reference value and compares a value corresponding to the difference with a predetermined threshold to determine a support structure condition (col. 7, lines 30-37).

Robar et al. do not mention expressly: at least one temperature sensor disposed in a hoistway; and said processor translates at least one of the measured electrical characteristic and an electrical characteristic of at least one portion of a virgin support structure to correspond with a reference temperature to reflect an effect of a temperature in the hoistway as indicated by said at least one temperature sensor, wherein a value corresponding to the measured electrical characteristic is a measured

value and a value corresponding to the electrical characteristic of the virgin support structure is a reference value.

Blum discloses an apparatus and method of damage detection for magnetically permeable members using an alternating magnetic field and hall effect sensors (Abstract; col. 1, lines 10-20), comprising: a processor that translates a measured electrical characteristic to correspond with a reference temperature to reflect an effect of ambient temperature (col. 8, lines 27-36), wherein a value corresponding to the measured electrical characteristic is a measured value (col. 6, lines 26-31 and 51-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Blum in the invention of Robar et al. in order to provide a mechanism for compensating the impact of ambient temperature on the monitoring of the support structure condition (Blum, col. 8, lines 27-28) of the elevator because electrical characteristic such as resistance is affected by environmental condition factors such as temperature and moisture (Robar et al., col. 7, lines 38-48).

Parrini et al. teach a method and system for measuring temperature in a hoistway of an elevator, including: at least one temperature sensor disposed in a hoistway (col. 4, lines 33-44); and said temperature in the hoistway being indicated by said at least one temperature sensor (col. 4, lines 33-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Parrini et al. in the cmbination of Robar et al. and Blum in order to provide a mechanism for measuring the temperature

in a hoistway of an elevator which can be used to detect an emergency condition of the elevator supporting system (Robar et al., col. 7, lines 38-48; Parrini et al., col. 4, lines 33-44).

Regarding claim 8, Robar et al. teach an elevator support structure assembly (Abstract), comprising: a characteristic sensor that obtains a measured electrical characteristic of at least one portion of the elevator support structure (col. 7, lines 4-10); and a processor calculates a difference between the measured value and a reference value and compares a value corresponding to the difference with a predetermined threshold to determine a support structure condition (col. 7, lines 30-37).

Robar et al. do not mention expressly: at least one temperature sensor, said temperature is determined from said at least one temperature sensor; said processor determines a temperature associated with at least one portion of the elevator support structure, and translates at least one of the measured electrical characteristic and an electrical characteristic of at least one portion of a virgin support structure to correspond with a reference temperature to reflect an effect of a temperature as indicated by said at least one temperature sensor, wherein a value corresponding to the measured electrical characteristic is a measured value and a value corresponding to the electrical characteristic of the virgin support structure is a reference value.

Blum discloses an apparatus and method of damage detection for a support structure using an alternating magnetic field and hall effect sensors (Abstract; col. 1, lines 10-20), comprising: a processor that determines a temperature associated with at least one portion of the support structure, and translates a measured electrical

characteristic to correspond with a reference temperature to reflect an effect of ambient temperature (col. 8, lines 27-36), wherein a value corresponding to the measured electrical characteristic is a measured value (col. 6, lines 26-31 and 51-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Blum in the invention of Robar et al. in order to provide a mechanism for compensating the impact of ambient temperature on the monitoring of the support structure condition (Blum, col. 8, lines 27-28) of the elevator because electrical characteristic such as resistance is affected by environmental condition factors such as temperature and moisture (Robar et al., col. 7, lines 38-48).

Parrini et al. teach a method and system for measuring temperature in a hoistway of an elevator, including: at least one temperature sensor disposed in a hoistway (col. 4, lines 33-44); and said temperature in the hoistway being indicated by said at least one temperature sensor (col. 4, lines 33-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Parrini et al. in the cmbination of Robar et al. and Blum in order to provide a mechanism for measuring the temperature in a hoistway of an elevator which can be used to detect an emergency condition of the elevator supporting system (Robar et al., col. 7, lines 38-48; Parrini et al., col. 4, lines 33-44).

Regarding claim 13, Robar et al. teach a method of monitoring an elevator support structure condition (Abstract), comprising: obtaining a measured electrical

characteristic of at least one portion of the support structure (col. 7, lines 4-10); calculating a difference between the measured value and a reference value (col. 7, lines 30-37); and comparing a value corresponding to the difference with a predetermined threshold to determine a support structure condition (col. 7, lines 30-37).

Robar et al. do not mention expressly: measuring a temperature associated with at least a portion of the support structure; translating at least one of the measured electrical characteristic and an electrical characteristic of at least one portion of a virgin support structure to reflect an effect of a measured temperature, wherein a value corresponding to the measured electrical characteristic is a measured value and a value corresponding to the electrical characteristic of the virgin support structure is a reference value.

Blum discloses an apparatus and method of damage detection for magnetically permeable members using an alternating magnetic field and hall effect sensors (Abstract; col. 1, lines 10-20), comprising: translating a measured electrical characteristic to reflect an effect of ambient temperature (col. 8, lines 27-36), wherein a value corresponding to the measured electrical characteristic is a measured value (col. 6, lines 26-31 and 51-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Blum in the invention of Robar et al. in order to provide a mechanism for compensating the impact of ambient temperature on the monitoring of the support structure condition (Blum, col. 8, lines 27-28) of the elevator because electrical characteristic such as resistance is affected by

environmental condition factors such as temperature and moisture (Robar et al., col. 7, lines 38-48).

Parrini et al. teach a method and system for measuring temperature in a hoistway of an elevator, including: at least one temperature sensor disposed in a hoistway (col. 4, lines 33-44); and said temperature in the hoistway being indicated by said at least one temperature sensor (col. 4, lines 33-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Parrini et al. in the cmbination of Robar et al. and Blum in order to provide a mechanism for measuring the temperature in a hoistway of an elevator which can be used to detect an emergency condition of the elevator supporting system (Robar et al., col. 7, lines 38-48; Parrini et al., col. 4, lines 33-44).

Regarding claim 3, Robar et al. teach the claimed invention (col. 7, lines 38-48).

Regarding claims 4, 5, 11 and 16, Robar et al. teach: wherein the processor divides a difference between the measured value and the reference value by the reference value to obtain a percent change value, which acts as the value corresponding to the difference (col. 7, lines 4-10, inherent to the definition of the correlation between the measured values and the predetermined reference values), and wherein the processor indicates a worn support structure if the percent change value exceeds the predetermined threshold (col. 7, lines 30-37); wherein the value corresponding to the difference is the difference itself between the measured value and the reference value (col. 7, lines 4-10, inherent to the definition of the correlation

between the measured values and the predetermined reference values), and wherein the processor indicates a worn support structure if the difference exceeds the predetermined threshold (col. 7, lines 30-37).

Regarding claims 6, 7, 12, 17 and 18, Robar et al. teach to consider an effect of ambient temperature along the hoistway between the top and bottom levels (col. 7, lines 41-48).

Robar et al. do not mention expressly: wherein said at least one temperature sensor comprises a plurality of temperature sensors that are spaced a uniform distance from each other along the hoistway, and wherein the processor calculates the reference value based on temperature readings obtained from the plurality of temperature sensors; wherein the plurality of temperature sensors are spaced a uniform distance from each other along the hoistway.

In view of the teaching of Robar et al., one having ordinary skill in the art at the time the invention was made to modify the combination of Robar, Blum and Parrini to include a plurality of temperature sensors disposed in a hoistway (Parrini et a;., col. 4, lines 33-44) and spaced a uniform distance from each other, and calculates the reference temperature taught by Blum (Blum, col. 8, lines 27-36) based on temperature readings obtained from the plurality of temperature sensors such that variation of ambient temperature along the hoistway can be considered for monitoring of the support structure condition of the elevator (Robar et al., col. 7, lines 41-48).

Regarding claim 9, Robar et al. teach the claimed invention (col. 7, lines 30-37).

Regarding claim 19, Robar et al. teach the claimed invention (col. 7, lines 38-48).

Allowable Subject Matter

3. Claims 2, 10, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Allowance

4. The following is a statement of reasons for the indication of allowable subject matter:

Please see the Office action mailed 06/16/2008 for reasons for allowance of claims 2, 10, 14 and 15.

Response to Arguments

5. Applicant's arguments filed 09/16/2008 with respect to claims 1, 3-9, 11-13 and 16-19 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1, 3-9, 11-13 and 16-19 are rejected as new prior art reference (U.S. Pat. No. 5570017 to Blum) has been found to teach, in combination with other cited prior art references, the claimed invention recited in these claims. Detailed response is given in section 3 as set forth above in this Office action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (571)272-2280. The examiner can normally be reached on 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571)272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X. S./
Examiner, Art Unit 2863

/Tung S. Lau/
Primary Examiner, Art Unit 2863
May 7, 2009